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Dear Paul

Date: 16 November 2009

Approval of the Leakage Model as defined under Special Condition E9

On 21 July 2009 Scotland Gas Networks plc ("SGN") submitted its Leakage Model v1.3 to Ofgem[1] pursuant to special condition ("SC") E9 of its gas transporter licence. Having regard to its principal objective and statutory duties[2], the Authority has decided to approve the proposed Leakage Model v1.3.

This letter also outlines the background to SGN's submission and provides the reasons for the Authority's decision.

Background

The 2008-2013 Gas Distribution Price Control Review ("GDPCR") included incentives on Gas Distribution Network Operators ("GDNs") to reduce shrinkage and natural gas emissions and introduced new controls around the estimation of emissions and other losses from gas distribution systems. The Shrinkage Incentive was modified and a new Environmental Emissions Incentive ("EEI") was introduced, supported by SCs E8 & E9 respectively.

Since it is not possible to measure the exact leakage or losses from the system, a leakage model (using known system parameters and historical test data) is used by GDNs for Uniform Network Code ("UNC") shrinkage volume estimating and assessment. A virtually identical leakage model (using a fixed Calorific Value) is used to assess the EEI volumes.

SC E9, paragraph 3, requires that by 1 October 2008, each GDN should establish and maintain a leakage model which shall be approved by the Authority. SC E9 provides a control mechanism to ensure that, as far as is reasonably practical, the model accurately reflects actual natural gas leakage and is consistent across all GDNs. All the current leakage models are based on the National Leakage Assessment Model, which has historically been used to estimate leakage.

Each GDN must annually review its leakage model and should also, if necessary, propose modifications and assess any consequences of the changes according to the process set out in paragraphs 7 to 16 of SC E9. This includes consulting on any proposed changes to an approved leakage model, appointing an independent expert to review the (revised) model, and submitting a report to the Authority.

1 Ofgem is the Office of the Gas and Electricity Markets Authority. The terms 'Ofgem' and 'the Authority' are used interchangeably in this letter.
2 Set out in Section 4AA of the Gas Act 1986, as amended.

In November 2008, the GDNs informed Ofgem that, although their respective leakage models had not yet been approved by the Authority, they wished to revise them. Following further discussions with the GDNs, in March 2009 Ofgem indicated that any changes to an unapproved leakage model should be conducted via the transparent SC E9 process, which includes consulting with shippers and other interested parties.

Following that recommendation, on 31 March 2009 the GDNs collectively consulted on the proposed changes. Within the 28 day consultation period, only one response was received seeking consideration to be appointed as Independent Expert.

On 3 July 2009 the GDNs published both the Leakage Model Modification No. 01 Report and the Independent Expert's report.

The reports identify that the current leakage model v1.0 commonly used as a template by all GDNs does not correctly account for the impact of gas service pipe replacement because the current model assumes that one third of all services connected to a low pressure network are metallic. Since new service pipes are predominantly constructed in polyethylene, the GDNs consider that actual service replacement data should be used instead.

A full description of the proposed change, its implications and a hypothetical worked example can be found in the Leakage Model Modification No. 01 Report[3] and the Independent Expert's report[4].

Now SGN has submitted its revised Leakage Model v1.3 which incorporates the revisions of the service replacement data to the Authority for approval. Likewise, all GDNs have proposed an identical change to their Leakage Models.

Ofgem's view

Ofgem is of the general view that any modification to the GDNs' leakage models that results in its output being more closely aligned with the likely actual leakage from the system should be encouraged.

We have examined SGN's proposal and are satisfied that their Leakage Model v1.3 will more accurately reflect the service pipe population and material type/mix than under the previous leakage model v1.0. Therefore, the derived leakage volumes will more accurately reflect actual leakage volumes from the system. Amending the model will increase the incentive on the GDN to replace services and hence to reduce natural gas leakage. In addition, all GDNs propose to implement this change, thus ensuring consistency in their leakage models.

We are of the view that this proposal would better facilitate the achievement (for the purposes of each Transporters' Licence) of the Relevant Objectives:

Special Condition E9.4: The Leakage Model shall facilitate the achievement of the following objectives –
(a) the accurate calculation and reporting of gas leakage from each of the LDZs operated by the licensee; and
(b) being consistent with, and where reasonably practicable, identical to Leakage Models used by other DN Operators.

There is provision within the SC E9 for the assessment of the implications of any modifications to ensure that the EEI is maintained at the same level as those applicable prior to the change to a leakage model. In order to maintain the incentive properties of the EEI at the same level as those applicable prior to the change in the leakage model, it would be necessary to alter the EEI baselines.

3 www.gasgovernance.co.uk/sites/default/files/LeakageModelModificationConsultationNo_01Finalv1.
4 www.gasgovernance.co.uk/sites/default/files/AssessmentofServiceLeakageEstimationMethodologyFin

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The Independent Expert has estimated that over the GDPCR period 2008-2013 the change to the SGN leakage model will result in an aggregate reduction of leakage estimation and hence a reduced incentive under the EEI totalling 1.65 GWh per annum (equivalent to approximately £49k per annum). Similarly, it is likely that changes to the leakage model will result in similar changes in the model used for UNC shrinkage assessment and reduce the shrinkage incentive. However, since the effect of this change is relatively small, the Authority does not intend in this instance to make revisions to the allowed shrinkage and leakage volumes within the respective shrinkage and environmental incentives as set out in GDPCR Final Proposals December 2007.

Despite that conclusion, we have taken note of the Independent Expert's view that the revised methodology would result in an aggregate reduction of leakage estimation. It is therefore our intention that individual LDZ estimated reductions will be formally recorded with each GDN.

In the event that subsequent proposed changes to the leakage model are proposed, the cumulative effect on leakage estimates of previous changes to the leakage model may be aggregated when Ofgem assesses whether shrinkage and leakage volumes should be revised. For the avoidance of doubt, such aggregations will not be applied retrospectively.

Authority's decision

Following consideration of the documentation provided by SGN pursuant to paragraph 3 of the SC E9; having regard to the Authority's principal objective and statutory duties; and for the reasons set out above, the Authority hereby approves the SGN Leakage Model v1.3.

Dated 16 November 2009

Rachel Fletcher
Partner, Distribution

Signed on behalf of the Authority and authorised for that purpose by the Authority

This letter constitutes notice pursuant to section 38A of the Gas Act 1986.

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